



The Hartt School  
University of Hartford

November 22, 2009

I HEREBY RECOMMEND THAT THE DOCTORAL THESIS PREPARED

UNDER MY SUPERVISION BY: Tracy Richard Wiggins

ENTITLED: *27'10.554"* by **John Cage** and *The King of Denmark* by  
**Morton Feldman and Their Influence Upon Thomas DeLio's as  
though**

BE ACCEPTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE DOCTOR OF MUSICAL ARTS DEGREE

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**Responsibilities:** care and maintenance of percussion inventory; teach percussion methods course; assist with instruction of steelband; assist with instruction of percussion ensemble; percussion section manager for wind ensemble and orchestra

**UNIVERSITY OF NEW MEXICO**, Albuquerque, New Mexico

Master of Music in Percussion Performance, conferred May 1997

**Responsibilities:** care and maintenance of instruments; instruction and arranging for the marching band percussion section; teach percussion methods courses; teach non-major percussion lessons; Performed at the 1995-1996 Percussive Arts Society International Convention as member of percussion ensemble.

**OKLAHOMA STATE UNIVERSITY**, Stillwater, Oklahoma

Bachelor of Music in Music Education, conferred May 1995

## PRINCIPAL TEACHERS

Johnny Almendra - International Recording and Concert Artist - Latin Percussion  
Wayne Bovenschen - Oklahoma State University  
Michael Bump - Truman State University  
Joe Galeota - International Recording and Concert Artist - African Percussion  
Gregg Koyle - Santa Fe Pro Musica  
Alexander Lepak - Hartford Symphony Orchestra; Percussive Arts Society Hall of Fame  
Christopher Shultis - University of New Mexico  
Benjamin Toth - The Hartt School  
Glen Velez - International Recording and Concert Artist - Frame Drums  
Nancy Zeltsman - International Recording and Concert Artist - Marimba

## TEACHING EXPERIENCE

**THE UNIVERSITY OF NORTH CAROLINA AT PEMBROKE**, Pembroke, North Carolina

**Director of Percussion Studies**, 2003-present

**Responsibilities:** oversee all aspects of the UNCP percussion program; teach applied lessons and masterclasses (orchestral, chamber, and solo literature, drumset, hand drums, etc.); conductor/director UNCP Percussion Ensemble; assist director of Marching Band and Pep Band; teach percussion methods course; teach undergraduate music appreciation; assist with direction of wind ensemble.

**Administrative Responsibilities:** hire and oversee guest artists and clinicians; recruit students for marching band and percussion studio; generate revenue,

sponsorships and endorsements; cultivate performance opportunities

**Committee Responsibilities:** Music Department Scholarship Audition Committee; Faculty Awards Committee.

**SAMFORD UNIVERSITY**, Birmingham, Alabama

**Instructor of Percussion/Assistant Director of Bands**, 1998-2001

**Responsibilities:** oversee all aspects of the Samford University percussion program; teach applied lessons and masterclasses (orchestral, chamber, and solo literature, drumset, hand drums, etc.); conductor/director Samford Percussion Ensemble; director of Samford Steel steel drum band; director of "Bulldog" Marching Band and Pep Band; teach percussion methods course; teach undergraduate sight-singing and ear-training; assist with direction of wind ensemble. **Administrative**

**Responsibilities:** hire and oversee guest artists and clinicians; recruit students for marching band and percussion studio; generate revenue, sponsorships and endorsements; cultivate performance opportunities; supervise all advertising and public relations aspects of the Samford percussion studio and "Bulldog" Marching Band.

**Committee Responsibilities:** University Writing Committee

### ORCHESTRAL/ENSEMBLE PERFORMANCES

2003 -present – Performing as principal timpanist with the Fayetteville Symphony

2004-present – Performing as percussionist with the Florence Symphony

2002 - 2003 - Performed as percussionist with The Waterbury Symphony

2002- 2003- Performed as percussionist with the New Britain Symphony

2002 - 2003 - Performed as member of The Hartt School African Drumming Ensemble

2001 - 2003 - Performed as member of "Performance 20/20", The Hartt School Honors Chamber Ensemble

2001 - 2003 - Performed as member of Hartt Graduate Percussion Duo

2001 - 2003 - Performed as member of Hartt Steel Drum Band

2001 - 2003 - Performed as member of Hartt Percussion Ensemble

2001 - 2003 - Performed as member of Hartt Hand-drum Ensemble

2001 - 2003 - Performed as member of Hartt Contemporary Players

2000-2001 - Performed as extra- percussionist with Alabama Symphony

1999 - Performed as pit percussionist for touring production of "Ragtime" in Birmingham Broadway Series

1998 - Performed as pit percussionist for touring production of "Cathy Rigby is Peter Pan" in Birmingham Broadway Series

1998 - Performed as pit percussionist for the Birmingham Town and Gown Theater production of "Kiss of the Spider Woman"

1997-1998 - Performed as percussionist and assistant timpanist with the Westerville Civic Symphony

1996-1997 - Performed as principal percussionist with the Santa Fe Symphony Orchestra

1995-1996 - Performed as extra-percussionist with the New Mexico Symphony

## **SOLO/CONCERTO APPEARANCES**

- 2006 – Conducted North Carolina All-State Percussion Ensemble
- 2005 – Guest Artist Performance at the University of Maryland College-Park
- 2004 – Solo Performance at the Percussive Arts Society International Convention
- 2003 - Duo performance at the North American Saxophone Alliance Northeastern Conference
- 2003 - Recital at The Hartt School
- 2003 - Marimba soloist with the Hartt School Percussion Ensemble on Maki Ishii's "Concertante"
- 2002 - Drum-set soloist with the Hartt School Contemporary Players on Frank Zappa's "The Black Page"
- 2002 - Recital at The Hartt School
- 2002- Conducted David MacBride's "Amanaplanacanalpanama" with the Hartt School Percussion Ensemble in concerts in Connecticut and New York
- 2002- Performed the World Premiere of David MacBride's "Elegy" for Horn and Timpani
- 2002 - Guest artist for recital at Michigan State University
- 2002 - Performed at the University of New Mexico Composers Symposium
- 2001 - Recital at Samford University
- 2001 - Guest artist for recital at the University of Alabama-Birmingham
- 2001 - Performed as marimba soloist with the Samford University Wind Ensemble on Daniel McCarthy's "Chamber Symphony for Marimba and Winds" as the Alabama Percussive Arts Society Day of Percussion
- 2000 - Recital at Samford University
- 1999 - Performed World Premiere of Daniel Davis's "Riding the Clouds: Spirit Dances for Solo Marimba" at The Ohio State University
- 1999 - Recital at Samford University
- 1998 - Recital at The Ohio State University
- 1998 - Performed as marimba soloist with The Ohio State University Percussion Ensemble on Akira Nishimura's "Matra"
- 1998 - Performed guest artist recital at Oklahoma State University
- 1997 - Performed as marimba soloist on Akira Nishimura's "Matra" with the University of New Mexico Percussion Ensemble
- 1994 - Performed Ney Rosauro's "Concerto for Marimba" with the Oklahoma State University Percussion Ensemble
- 1993 - Performed Alan Hovhaness' "Fantasy of Japanese Woodprints" with the Oklahoma State University Symphony Orchestra

## **MASTERCLASS PERFORMANCES**

- 2008 – Presented "Keyboard FUNdamentals" clinic at Percussive Arts Society International Convention
- 2008 – Presented "Advanced tambourine Techniques" clinic at North Carolina Music Educators In-Service Conference
- 2007 – Presented clinic for UNCP Summer Drum Daze Marching Percussion Camp
- 2005 – Presented masterclass at Tarleton State University Day of Percussion
- 2005-2007 – Presented percussion ensemble clinic at North Carolina Music Educators Convention
- 2004 – Presented marching percussion clinic at North Carolina Music Educators Convention
- 2003 - Presented Clinic at South Windsor Band Festival, South Windsor, Connecticut
- 2003 - Presented Masterclass at Western Connecticut State University

2002 - Performed in Masterclass with Nebojsa Zivkovic  
2002 - Presented Clinic at the University of New Mexico, Albuquerque, New Mexico  
2002 - Presented Clinic at Cleburne HS Day of Percussion, Cleburne, Texas  
2002 - Presented Clinic/Masterclass at American Bandmasters Festival in Fairfield, Connecticut  
2001 - Performed Keiko Abe's "Wind in the Bamboo Grove" in Masterclass with Evelyn Glennie  
1998 - Performed Peter Klatzow's "Dances of Earth and Fire" in Masterclass with Robert Van Sice  
1998 - Presented Masterclass at Oklahoma State University  
1998 - Presented Masterclass at Van Buren High School, Van Buren, Arkansas  
1996 - Presented Orchestral Percussion Clinic for New Mexico All-State Percussion Section  
1997 - Performed Keiko Abe's "Wind in the Bamboo Grove" in Masterclass with Janis Potter

## **MARCHING PERCUSSION**

**CAROLINA GOLD DRUM AND BUGLE CORPS**, Raleigh, North Carolina  
Front Ensemble Instructor/Arranger, 2004-2005

**FREELANCERS DRUM AND BUGLE CORPS**, Sacramento, California  
Snare Drum, 1994  
Ralph Hardimon/Shawn Glyde, Percussion Caption Heads

**BLACK GOLD DRUM AND BUGLE CORPS**, Tulsa, Oklahoma  
Snare Drum/Tenor Drums, 1991-1993  
Percussion Section Leader, 1993  
Wayne Bovenschen, Percussion Caption Head

**DELTA BRIGADE DRUM AND BUGLE CORPS**, Little Rock, Arkansas  
Percussion Caption Head and Arranger, 1995-1998

**UNIVERSITY OF NEW MEXICO**, Albuquerque, New Mexico  
Marching Percussion Instructor and Arranger, 1995-1997

**EL DORADO HIGH SCHOOL**, Albuquerque, New Mexico  
Percussion Instructor and Arranger, 1996-1997

**NORTHERN AURORA DRUM AND BUGLE CORPS**, Saginaw, Michigan  
Percussion Instructor, 1996

**BROKEN ARROW HIGH SCHOOL**, Broken Arrow, Oklahoma  
Percussion Caption Head, 1994

**PONCA CITY HIGH SCHOOL**, Ponca City, Oklahoma  
Percussion Instructor, 1993

**STILLWATER HIGH SCHOOL**, Stillwater, Oklahoma  
Percussion Instructor, 1992

## **PROFESSIONAL AFFILIATIONS**

The Percussive Arts Society – North Carolina Chapter Vice President; Alabama Chapter Vice President  
The College Music Society  
Music Educators National Conference - Connecticut and Alabama All-State Adjudicator  
Phi Mu Alpha Sinfonia  
Kappa Kappa Psi

## **HONORS**

2003 - Received the *John Cage Award* for outstanding percussion student, The Hartt School  
2001 - Received appointment to “Performance 20/20”, The Hartt School’s honors chamber music program  
2000 - Named to *International Who’s Who in Music and Musicians*

## **ENDORSEMENTS**

Black Swamp Percussion 2008-present  
Ludwig/Musser Percussion 2007-present  
Innovative Percussion Sticks and Mallets 2000-present  
Sabian Cymbals 1999-present  
Vic Firth Incorporated 1999-2002

## ABSTRACT

Thomas DeLio is currently a member of the theory and composition faculty at the University of Maryland at College Park. When referring to his compositional style he has credited composers Morton Feldman and John Cage with having a major influence, especially regarding their use of silence. In this essay, I shall, by means of close comparison, investigate how *as though* may be seen as a continuation and further development of ideas first explored in multiple percussion by Cage and Feldman: *27'10.554"* and *The King of Denmark*.



***27'10.554"* by John Cage and *The King of Denmark* by Morton  
Feldman and Their Influence Upon Thomas DeLio's *as though***

Tracy Richard Wiggins

Submitted in Partial Fulfillment  
Of the  
Requirements for the Degree  
Doctor of Musical Arts  
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By

Tracy Wiggins

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## **Chapter 1: A Short History of Multiple Percussion**

The family of percussion instruments produces sound by being struck, scraped or shaken. Throughout the early history of orchestral music percussionists took on the responsibility of performing on one instrument at a time, as would be the case where one plays timpani, bass drum or snare drum. This is primarily due to the military background from which many of the early percussion instruments derived. Timpani were originally called “nakers” and played by musicians on horseback who were a part of early military groups. Throughout history the snare drum has often been utilized as the major instrument to relay signals from one group of soldiers to another. Many of the percussion instruments most common in the orchestra today, including cymbals and triangles, come from the Turkish janissary tradition. In the military each performer would only perform on one instrument at any given time. As these instruments moved into the orchestral repertoire this tradition continued.

Timpani were the first percussion instrument to be used regularly in the orchestra. Dating back to Lully's *Thesee* in 1647, timpani have appeared regularly in orchestral and opera scores. The janissary instruments begin appearing more regularly in musical scores in the mid-eighteenth century. At first composers wrote for these instruments to represent Turkish sounds. Haydn and Mozart both included janissary instruments in their operas with Haydn also including them in some of his symphonies. These instruments later appeared in Beethoven's music as well, most notably the final movement of his Ninth Symphony. In these works,

the percussion instruments are still performed one player to a part, and would primarily remain as such throughout the nineteenth century.

Multiple percussion performance involves one percussionist playing several instruments at one time. Composers could see performers on the early trap set (often including bass drum, snare drum, Chinese tom, temple blocks, tambourine, etc.) which would show the capability of one performer to play several different percussion instruments. One of the earliest examples of a multiple percussion performer is mentioned in James Blades *Percussion Instruments and Their*

*History*:

At the turn of the nineteenth century (1802), Sir George Smart, whilst in Paris with friends wrote: ‘all five went underground to another coffee room to hear a concert and a man play upon five drums, triangle, and small bells at once.....’ (from *Leaves from the Journals of Sir George Smart*, Longman Green, London, 1907 p. 20).<sup>1</sup>

According to percussionist Steven Schick:

“In two very early examples, both *Histoire du Soldat* (1918) and the Bartok *Sonata for Two Pianos and Percussion* (1937) featured a mode of organizing percussion as a “multiple instrument. A multiple percussion instrument consists of several individual instruments arranged so that one percussionist might play them as a single poly-instrumental unit. After 1956 most percussion solo and chamber works, with the exception of those for single solo instruments like the vibraphone or marimba, were composed for multiple percussion. The sonic impact of multiple percussion music is collective, the unified result of the accumulated sounds of single instruments.”<sup>2</sup>

*Histoire du Soldat* requires that a single percussionist perform on a set of instruments similar to the jazz drum set of the early twentieth century. The

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<sup>1</sup> James Blades, *Percussion Instruments and Their History*, The Bold Strummer, 1992, p. 417

<sup>2</sup> Steven Schick, *The Percussionists Art*, Rochester, NY: University of Rochester Press, 2006, p.16.

percussion set-up for this work is bass drum, snare drum, field drum, cymbal, triangle and tambourine. Stravinsky maintains the “double drumming” set-up where the bass drum is played with mallets rather than a foot pedal as was becoming more popular with jazz players at that time. Throughout the work one percussionist is asked to play this collection of instruments that would have traditionally been covered by several performers. This set-up is typically performed in a standing position with the bass drum laid flat, rather than in the traditionally seated drum set approach. In 1922 and 1923, William Walton and Darius Milhaud took the jazz drum set usage one step further in *Façade* and *La Creation du Monde* respectively. *Façade* asks the performer to utilize snare drum, bass drum, cymbal, castanets, triangle and tambourine. In *La Creation du Monde*, Milhaud uses a snare drum, 2 tom toms, bass drum with attached cymbal (sometimes performed with hi-hat), cymbal, cowbell, tambourine and woodblock. While the instrumentation is similar among the three works, the Walton and Milhaud are performed from a seated position. This is due to many rolls and rhythmic figures being performed at the same time as the bass drum is being played, a performance requirement that does not appear in the Stravinsky. Milhaud took another important step in the world of multiple-percussion when in 1930 he finished composition of his *Concerto for Percussion and Small Orchestra*. This is the first appearance of a multiple percussionist in a solo role with an orchestra and features the soloist performing on timpani, toms, cymbals and bass drum.

Bela Bartok's *Sonata for Two Pianos and Percussion* is the first work where two performers are asked to take on a multiple percussion role. One player is primarily responsible for the timpani part, but this performer is also occasionally charged with snare drum and cymbal parts. The second player is responsible for performing on xylophone as well as snare drum, bass drum, triangle, cymbals and tambourine.

In 1938 John Cage began composing his *Constructions* for percussion ensemble. These works explore many new sounds not previously associated with music, including automobile brake drums, tin cans and conch shells.<sup>3</sup> In each of the three *Constructions*, Cage calls for the members of the ensemble to perform on multiple instruments. After writing these works for percussion ensemble, a logical next step for Cage may have been to consider writing for solo percussion.

The earliest solo works for multiple percussion were technically demanding works, most often composed for a large set-up.<sup>4</sup> Some of the earliest and most significant of these works included John Cage's *27'10.554"* (1956), Stockhausen's *Zyklus* (1959), Morton Feldman's *The King of Denmark* (1964), Charles Wuorinen's *Janissary Music* (1966), Herbert Brun's *Plot, Touch and Go*, and *Stalks and Trees and Drops and Clouds* (1967) and *Psappha* (1975) by Iannis Xenakis. One of the most interesting details of each of these works is that in all of them the performer encounters a new instrumental set-up as well notational style with which they must contend. Many of these works are now cornerstones

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<sup>3</sup> Some of the sounds called for in Cage's *Third Construction* (1941) were, in fact, called for in *Ionisation* by Edgard Varese (1931) but only one or two instruments are required for each performer.

<sup>4</sup> Schick, p. 18.

in the percussion repertoire and have all had significant influence on pieces that have followed.

## **Chapter 2: Methodology for Analysis**

The works involved in this project do not utilize traditional harmonic and melodic structures as they are written predominately for non-pitched percussion instruments.

In an interview DeLio related his beliefs in this way:

“Regarding analysis; analytical approaches change over the years. Analysis, like music itself is never static. This is important because if analysis is static, students who undertake it learn the same thing over and over again from pieces that should teach different things! So my answer to how they should analyze any piece is that they should analyze in new and hitherto unforeseen ways. Using information theory, spectrographic analysis, psychoacoustics... Find what is new, special and unique in a piece. Too much theory today is devoted to finding what is trivially similar in different musics (sic), and when the similarity cannot be found the theorists conclude that the music is at fault.”<sup>5</sup>

In this quote DeLio describes an analytical approach that focuses upon looking for new ways to see music, but I believe that in the beginning analysis needs to start with the basics of music as we know them: melody; harmony; form; rhythm.

From that starting point one can see where unusual techniques of analysis might aid the understanding of a composition. This project will look at three pieces with special regard to the relationship between silences and sonic activity. A combination of analytical techniques, appropriate for this style of music, will be employed, including: counts of strokes in particular events; study of instrumental groupings; measurement of durations of silent events throughout the works; analysis of timbre and register of events. I will also look at the use of texture, be it

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<sup>5</sup> Tracy Wiggins, “A Conversation with Composer Thomas DeLio,” *Percussive Notes*, 44, 1, 2006, pp. 50-51.

monophonic, homophonic or polyphonic within the compositions, especially focusing upon this area in the multi-percussion works where it is most clearly evident. The paper will describe the density in the three works as utilized by percussionist Steven Schick to describe Feldman's *The King of Denmark*. This technique will look at the works through three types of density: linear; peripheral and saturation. The linear densities are those that consist of individual events creating small clusters or individual lines. He describes the peripheral densities as events in any register that are supposed to be placed freely over the course of three to five units of time. Saturation is a density in which many sounds occur at the same time, leading the listener and performer to not focus on any particular sound group.<sup>6</sup> In addition, the analysis of structure utilized by John Welsh in his article "The Secret Structure in Morton Feldman's *The King of Denmark*" will be applied to the Cage and DeLio works. In this analysis Welsh focuses on density, register, timbre and silence.

The analysis will also take a look at timbre by focusing upon the instrument categories given by Mr. Feldman in his work, *The King of Denmark*, and how these groups are combined throughout the compositions. In addition the variety of notation utilized by the composers will be examined, with a focus upon on how the notation both highlights and creates differences in the compositional approach. Charts will be completed for all of the works focusing upon the amount of attacks and silences within approximately one minute of performance time. For the purpose of charting attacks only the initial strike of sustained and

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<sup>6</sup> Schick, p.173.

cluster sounds will be counted. The works will be examined in their chronological order of composition to highlight how the Cage and Feldman works would have influenced Delio's composition.

### **Chapter 3: 27'10.554" for a Percussionist by John Cage**

#### **Biographical Information on John Cage**

John Cage (1912-1992) studied composition initially with Richard Buhling, who introduced Cage to Henry Cowell. Cage went on to study contemporary and folk music with Cowell at the New School for Social Research. In 1934 Cage moved to Los Angeles to study with Arnold Schoenberg. Cage started working as a dance accompanist while in Los Angeles. This work led to his close association with the dancer Merce Cunningham. While working as a dance accompanist Cage began to write many compositions for percussion. In one instance the lack of space for a full percussion ensemble in a recital hall in Seattle, Washington led to his development of the prepared piano.<sup>7</sup> As Cage states:

“Bacchanale (1940) is the first piece composed for the prepared piano. The need to change the sound of the instrument arose through the desire to make an accompaniment, without employing percussion instruments, suitable for the dance by Syvilla Fort for which it was composed.”<sup>8</sup>

The preparations would include the addition of bolts and screws to the inside of the piano to create new effects.

Cage was a composer attracted to noise and also its opposite, silence. *4'33"* is his self-proclaimed favorite work and is of course his best known experiment with the world of silence.<sup>9</sup> In this three movement work no sound is actually made by the

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<sup>7</sup> James Pritchett, “Cage, John”, New Grove Online, [http://www.oxfordmusiconline.com/subscriber/article/grove/music/49908?q=john+cage&hbutton\\_search.x=12&hbutton\\_search.y=15&hbutton\\_search=search&source=omo\\_gmo&search=quick&pos=1&\\_start=1#firsthit](http://www.oxfordmusiconline.com/subscriber/article/grove/music/49908?q=john+cage&hbutton_search.x=12&hbutton_search.y=15&hbutton_search=search&source=omo_gmo&search=quick&pos=1&_start=1#firsthit), (accessed January 8, 2009).

<sup>8</sup> Richard Kostelantz ed., *John Cage: Writer*, New York: First Cooper Square Press, 2000, p. 7.

<sup>9</sup> American Masters Documentary Video: “John Cage: I Have Nothing To Say and I am Saying It.”, 1990.

artist. Rather, the idea is that silence consists of all of the sounds we do not intend. As he stated:

“There is no such thing as absolute silence. Therefore silence may very well include loud sounds and more and more in the twentieth century does. The sound of jet planes, of sirens, et cetera. For instance now, if we heard sounds coming from the house next door, and we weren't saying anything for the moment, we would say that was part of the silence, wouldn't we?”<sup>10</sup>

Cage has described this work as a spiritual first movement to Satie's *Vexations*.<sup>11</sup>

Regarding that composition, the composer states that the work should commence with a “deepest silence” and “serious immobility.” Cage was intrigued by this concept and wrote *4'33*” to act as this period before the start of *Vexations*.<sup>12</sup> Cage was influenced by the compositions of Satie, most directly the work *Socrate*.

Cage went on to compose his own adaptation of this work titled *Cheap Imitation*.

Cage had intended to perform his adaptation of *Socrate* accompanied by an original dance by Merce Cunningham. When the French publishing firm that held the rights to the work would not allow the performance Cage created a work that maintains the phrase structure of *Socrate*, while replacing the tonalities in the work with new pitches chosen through use of the I Ching.<sup>13</sup> Hence, the choreography that was rehearsed with the Satie would still be applicable to the new work.

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<sup>10</sup> John Cage, *Silence*, Wesleyan University Press: 1973 p. 166.

<sup>11</sup> Stephen Whittington, “Serious Immobilities: On the centenary of Erik Satie's *Vexations*”, Satie Homepage, <http://www.af.lu.se/~fogwall/article3.html> (accessed January 8, 2009).

<sup>12</sup> Whittington

<sup>13</sup> Kostelantz, p. 93.

Cage wrote *4'33"* after his failed attempt to experience true silence within an anechoic chamber (at Harvard University, 1951). Even in this room, designed to absorb rather than reflect sound, Cage was still able to hear the high-pitched sound of his nervous system and the circulation of his blood. Cage was also influenced by Robert Rauschenberg's paintings which consisted of white house paint upon blank canvases. While the paintings might appear to be blank, the contour of the paint will alter and reflect light, making them appear to be different colors depending upon where the observer is standing. In this way Rauschenberg and Cage both deal with the notion of absence: is white (or silence) the absence of something?

### ***27'10.554" for a Percussionist***

*27'10.554"* (1956) is widely regarded as the first piece in the repertoire of multiple percussion pieces for solo performer. While the concept of multiple percussion had previously been used by composers it had always been in an ensemble context, as earlier seen in *Histoire du Soldat* and *La Creation du Monde*. To that end, Cage helped influence the development of this new style of performance within percussion. In this chapter, the structure of the piece will be analyzed to the extent that it will allow us to assess its influence on DeLio's works.

Each page of Cage's score corresponds to one minute of time, with numbers appearing on the page to describe approximately when the sounds should be performed in seconds. Chance procedures determined all details of the work in

regard to when notes will appear and what instrument group they will appear in. The composition means were complex involving both chance operations and observation of imperfections in the paper upon which the piece was written.<sup>14</sup> He then darkened imperfections throughout to become the note-heads of the piece. With this approach to composition the work shows elements of indeterminacy in the instrumentation and rhythms that appear during a performance.

The musical materials that appear were derived through chance operations utilizing the *I Ching*. He asked the following questions to set up the work:

- Which moments within the existing time structure are sound and which are silence?
- What is the duration of each sounding phrase and silence?
- What is the number of events in the sounding phrases?
- Which of those potentially active events are actually sounding events (as some may actually be non-sounding)?
- What is the type of event (either points and lines, or a mixture of points of lines)?

Schick believes that one idea that needs to be kept in mind regarding Cage is that he was primarily a structuralist:

“For all of the apparent freedom in compositions from his indeterminate period, he remained committed to the need for discipline and process in composition. “Anything goes as long as nothing else matters,” he said once in a public lecture. He was also undeniably attracted to chance – to the inevitability that what would actually happen in a performance of music could not be completely foreseen by him or anyone else.”<sup>15</sup>

This concept of being a structuralist can be seen in the importance to Cage of having a system by which certain compositional elements are determined.

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<sup>14</sup> Richard Kostelantz ed., *John Cage: Writer*, New York: First Cooper Square Press, 2000, p. 55.

<sup>15</sup> Schick, p. 58.

## Form and Content Analysis

### Density

*27' 10.554" for a percussionist* shares the same structure with the works *31' 57.9864" for a Pianist (1954)*, *34' 46.776" for a Pianist (1954)* and *26' 1.1499" for a String Player (1955)*. Each of these works has a macrostructure of 5 sections with proportions of 3, 7, 2, 5, and 11 for a total of 28 units. The 28 smaller units are divided into five phrases of 3, 7, 2, 5, and 11 to make up the microstructure. The 28 units are shown in the score by dotted lines and the segments could be superimposed in any way to create duet, trios and quartets. Example 1 shows how the dotted lines divide sections of the work.

Example 1. *27' 10.554"*, minute 3

The image shows a page from a musical score for a percussion instrument. The score is written on a single staff with a treble clef. The music is divided into measures, with measure numbers 15, 18, 20, 22, 25, 26, 27, 28, 30, 34, 35, 36, 41, 44, 47, 48, 53, 54, 55, 57, and 60 marked. A vertical dotted line is drawn at the beginning of measure 15. Above the staff, there are horizontal lines representing the 28 units of the macrostructure, with numbers 6, 7, and 12 indicating the lengths of some sections. The score includes various musical notations such as rests, notes, and dynamic markings.

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A notable feature of the work is how silence is used to distance sounds from each other. For example, minute two of the work is almost a full minute of silence, appearing in between the first and third minutes that are relatively full from a sound standpoint. On average each minute of the work features between 15 and 40 seconds of silence. Minutes four, nine, ten, nineteen and twenty-one are the most musically dense periods of time in the work.

The following chart (figure 1) illustrates the approximate number of ictus and seconds of silence within each minute of the work.

Figure 1. Form of 27'10.554"

<u>Section</u>	<u>Timing</u>	<u>Ictus</u>	<u>Silence</u>	<u>Sound Focus</u>
<u>I</u>	<u>1</u>	31	38	Metal and Wood
	<u>2</u>	2	58	Metal and Other
	<u>3</u>	55	22	Sustained Sound
<u>II</u>	<u>4</u>	180	18	Short sounds and sustained interludes
	<u>5</u>	109	36	Short WMS sounds
	<u>6</u>	61	24	Softer Volumes
	<u>7</u>	46	44	Louder Volumes
	<u>8</u>	38	42	Sustained sounds
	<u>9</u>	138	31	Mixture
<u>III</u>	<u>10</u>	214	34	Short bursts
	<u>11</u>	54	49	Mixture
<u>IV</u>	<u>12</u>	58	33	Sustained

	<u>13</u>	27	40	Mixture
	<u>14</u>	39	27	Long Sustained sounds; Metal and Skin
	<u>15</u>	59	35	Mixture
	<u>16</u>	5	53	Sustained Sounds
	17	70	33	Mixture
<u>V</u>	18	28	32	Mixture
	19	89	17	Mixture
	20	23	34	Mixture
	21	91	22	Mixture
	22	17	37	Mixture
	23	17	39	Mixture
	24	62	32	Mixture
	25	69	42	Mixture
	26	59	45	Short Sounds
	27	17	38	Sustained Wood
	28	3	6.554	Metal Skin Other

By looking at this chart we can start to see trends in Cage's composition. Minute ten of the work features the largest count of ictus in the piece. This will create a great deal of rhythmic activity because this minute also includes over 30 seconds of silence, which means the performer will have to perform a large number of notes in thirty seconds. This can be compared to page two in which two notes are performed within that minute. This chart also shows that there is not a direct

correlation between the number of strokes in a section and the amount of silence within that section. Several of the densest passages also feature some of the longest silences. This will create a flurry of rhythmic activity for a brief period of time, which could serve to make the silent periods more striking to the listener.

The microstructure also demonstrates that the number of ictus and silence throughout the piece is tied to the microstructure. For example, in the first section it has 3 sub-sections with 88 ictus to 118 beats of silence. Section three contains only two sub-sections but includes 268 ictus and 83 beats of silence. In the piece the section with the largest number of ictus is the second (which is also the second longest section), while the largest number of beats of silence comes in the final (and longest) section. When looking at sections one and three as a set and two and four as a set the shortest sections of each pair feature a higher density of notes while longer sections feature a higher density of silence. The fifth section is the longest and features a high density of both ictus and silence to close the piece. Because of the length of the final section however the density of notes does not seem as concentrated as in other sections, leave more space in between sonic events.

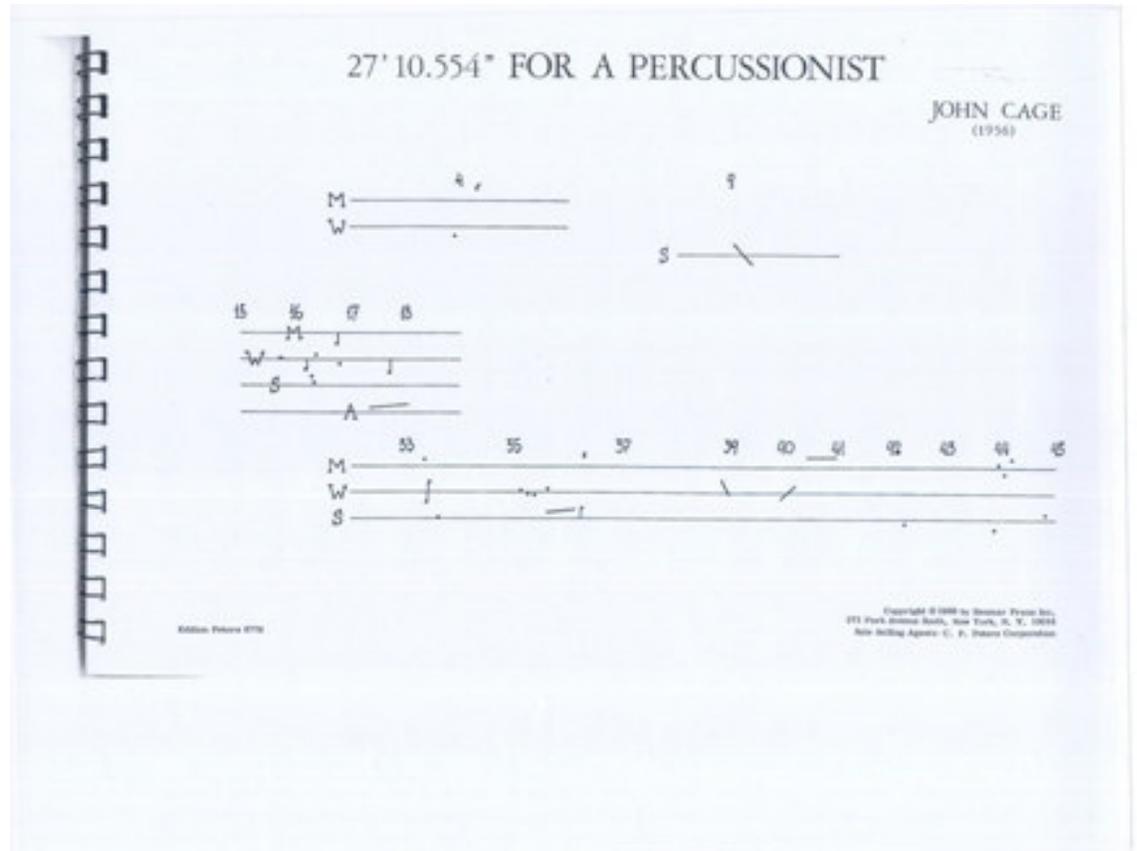
By using Steven Schick's "density" approach we can see the different types of densities which appear in the piece. Linear densities can be found throughout the score as the majority of the music involves small clusters of sound or single lines of music. Minutes four, five, nine, ten and nineteen are the most saturated portions of the work, all featuring the highest number of notes per minute ratio.

Minutes two, sixteen and 28 fit most closely into Schick's definition of peripheral density as they alter the piece to much slower increments of sound. The peripheral densities further highlight the saturation points in the piece by contrasting (not directly but nearly in time) these two densities. Cage's unintentional densities would go on to influence the very intentional densities of Thomas DeLio.

### **Register**

Pitch in the work cannot be specifically defined or analyzed due to the lack of traditional notation. Therefore, pitch relationships throughout the work are defined by the instrument set-up chosen by the performer. This is not the case in *The King of Denmark* and *as though*, as both of those works have more clearly defined pitch relationships from high to low. One concept to keep in mind however is that Cage states in the score that a virtuoso performance of the work will feature a wide variety of instruments which would insure a wide range of pitch possibilities for the performer. One approach that a performer could take with this piece is to arrange families of instruments from high to low in which a form of melody could emerge during the performance. This could even follow the dynamic contour of the piece by assigning specific sounds to specific dynamic markings in the score. For example, in the first gesture of the work a low wooden sound could be used for the first note, while a higher pitched metal could perform the second (example 2).

Example 2. 27'10.554", minute 1



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## Timbre

"27' 10.554" is scored for four groups of instruments: metals; woods; skins and "all other." The "all other" category can include electronic devices, radios, whistles and any other instrument that does not fall into the other three categories. Each instrument is notated as one line with dynamics being determined by each note's placement in relation to the line. The line is to be considered mezzo-forte, while notes above the line are louder and the notes below the line are softer. A crescendo or decrescendo can be notated by a diagonal line passing through the

note line. A hook (,) can appear on metal sounds to indicate that they should be left to vibrate as long as possible. By controlling to a degree the length of some notes, which instrument group is being used and the general dynamic range, Cage exerts some control over the resulting performance. (example 3)

Example 3. *27'10.554"*, minute 7

The image shows a musical score for Example 3, consisting of four staves labeled M, W, S, and A. The score is divided into several measures, with measure numbers 9, 10, 11, 12, 13, 14, 15, 18, 19, 20, 21, 25, 26, 27, 28, 29, 30, 31, 32, 34, 41, 42, and 45. The notation includes various notes, rests, and dynamic markings such as 'f' (forte) and 'c' (crescendo). The staves are arranged in a grid-like fashion, with measures 9-15 on the top staff, 18-21 on the second staff, 25-30 on the third staff, and 31-34 on the fourth staff. The bottom staff contains measures 41-45. The notation is minimalist, focusing on the placement of notes and rests on the staff lines.

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Cage states in the score that “A virtuoso performance will include a wide variety of instruments, beaters, sliding tones, and an exhaustive rather than conventional use of the instruments employed.” As a performer, I would consider using a set-up that takes into account as many sounds and timbres as possible within each family. In the instance of each family, I would try to use a range of pitched and non-pitched instruments to allow more options for musical contrast. For skins I would use Chinese toms, timpani and concert bass drum. These three drum families have very different tonal qualities ranging from the clear and exact pitch

of the timpani to the dryness of the Chinese toms. In addition, all three can react very differently to various playing techniques such as finger rolls. For the metals the set-up would include as wide a variety of small bells as could be found. A vibraphone would create a middle range of sounds that can be altered with bowing and harmonic techniques. For lower pitched sounds a variety of gongs, tam tams and various other metals such as propane and oxygen tanks could be utilized. Wood sounds would include un-pitched pieces of wood, high to low pitches of woodblocks, and log drums of definite pitch.

Texturally Cage uses multiple combinations (e.g. woods and metals; metals and skins, etc.) of instruments throughout the work. Only in minutes two, sixteen and twenty seven does he not use every instrument family. The three portions of the piece (especially two and sixteen) make up some of the least dense portions of the work. It is quite common throughout the work for woods, metals and skins to be used in combination with each other, especially in those periods that are most dense in notation. These periods also feature a smaller usage of the “all other” and sustained sounds within them, choosing to focus upon shorter sounds. As a performer this has to be accounted for in the set up for the piece. Wood, metal and skin sounds have to be placed close enough together to be struck in passages that flow through all of the instrument groupings in rapid succession.

In a performance, the “all other” sounds used in this piece may either all be performed live, or involve pre-recorded passages. Such pre-recorded passages would preferably be selected using chance operations in keeping with the spirit of

the piece. Pre-recorded sounds allow the performer to concentrate on just performing three of the lines of the piece. It also allows for a greater variety of sounds to be used as they would not just be limited to what the performer can control. In addition Cage suggests employing pre-recorded passages for phrases that would be too difficult (busy) to realize in a live performance. Use of pre-recorded sounds would require a high degree of accuracy from a timing perspective by the performer, assuring that combinations of notes which include the “all other” sounds occur at the correct time. To perform these sounds live trigger technology might best be used, as this would allow precise coordination between engaging the playback and performing the lines (with the pedals activating the appropriate triggers). Another possibility would be the use of a midi controller such as a Malletkat. This controller could be programmed to assign specific sounds to particular notes in the keyboard layout, which could then be struck by the performer during the course of the piece to activate the sounds. Whether the performance is live or involves recordings, the use of a stopwatch or other timing device would be recommended to ensure the accuracy of Cage’s timings. A traditional stopwatch (or timer) would help the performer to accurately know where in the piece they were throughout so that the notes can be placed as accurately to the second as Cage has notated them.

## Silence

According to DeLio:

“Cage, of course, is the real source of all consideration of silence in music. But even his approach to silence is not like mine (though I deeply admire his). For Cage, silence is the space in which all unintended sound comes into play. Silence is part of his definition of non-intentionality.”<sup>16</sup>

In DeLio’s music silence is intended to separate the musical sounds from one another by using a large enough space between sounds for the listener to not actively relate one set of (intentional) sounds to another. He does not wish for unintended sounds to become a part of the music: he instead looks for an absence of sound in them.

The first section of the *27’10.554” for a Percussionist* is approximately three minutes in length. Cage uses all of the instrument groupings within this section but the “all other” instruments appear in a smaller capacity than the others. The work opens with 3 seconds of silence, two notes and then 4 more seconds of silence. After the first forty-five seconds of the piece there is a period of twenty three seconds of silence, followed by two notes and then a full minute of silence. The distances between sounds in this opening section are very similar to those that will be found in *as though*. (see Examples 1 and 2)

In the Cage, section two flows directly from section one, with no silence to separate them. Immediately the texture of sound in the second part is denser than in the first section (Example 4).

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<sup>16</sup> Wiggins, p. 51.

Example 4. 27'10.554", minute 4

A musical score for voice parts, likely from a vocal ensemble. The score is arranged in four systems, each with four staves labeled M (Male), W (Woman), S (Soprano), and A (Alto). The first system contains measures 1 through 14. The second system contains measures 16 through 28. The third system contains measures 32 through 35, followed by a large gap, and then measures 38 through 44. The fourth system contains measures 51 through 59. The notation includes various note values, rests, and dynamic markings. A vertical line is present on the left side of the page, and a series of small rectangular marks are on the right side.

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In this section Cage uses sustained sounds to reduce the amount of silent spaces between larger clusters of sound. The longest silence in the second part is approximately 23 seconds.

The third section begins ten minutes into the work and includes longer periods of silence, similar to section one. This is the shortest section of the work at approximately two minutes. After the first two seconds of this section a silence of

forty-four seconds appears. Note density is not as heavy in this section as it is in section two.

Section four opens with four seconds of silence and includes a page of the score that features fifty-five seconds of silence. This section of the work focuses slightly more on the sustained and sliding sounds than the three sections that came before.

The final section of the piece is the longest at eleven minutes. The first part of this section (minutes eighteen through twenty three) has maximum silences of twenty to thirty seconds. From minute twenty four to the end the silences between sections lengthen to as much as fifty-five seconds. The work ends as it began, with approximately three seconds of silence.

## **Chapter 4: *The King of Denmark* by Morton Feldman**

### **Biographical Information on Morton Feldman**

Morton Feldman (1926 – 1987) studied composition with Wallingford Riegger and Stefan Wolpe and was a great admirer of Varese. Much of his compositional influence is attributed to expressionist painters such as Mark Rothko, Phillip Guston and Jackson Pollack. Feldman states that “The new painting made me desirous of a sound world more direct, more immediate, more physical than anything that had existed before. Varese had elements of this. But he was too ‘Varese’. Webern had glimpses of it, but his work was too involved with the disciplines of the twelve-tone system. The new structure required a concentration more demanding than if the technique were that of still photography, which for me is what precise notation had come to imply.”<sup>17</sup> In this instance Feldman might be referring to Varese as being more focused on the elements of notating precise blocks of rhythm and timbre in his works. Many of his compositions feature graphic scores that leave the performer to determine pitch while the composer defines density and frequency of rhythmic activity.

### ***The King of Denmark***

*The King of Denmark* (1964) is widely regarded as another groundbreaking piece in the multiple percussion repertoire. Percussionist Steven Schick refers to the work as an “antipercussion piece.”<sup>18</sup> Much of percussion music historically has been tied to rhythm as a major focus (e.g. *as though*), but *The King of Denmark* (and *27’10.554”* as well) takes the element of composed or intentional rhythm out

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<sup>17</sup> Thomas DeLio, *The Music of Morton Feldman*, New York: Excelsior Publishing, 1996, p. xiii.

<sup>18</sup> Steven Schick, *The Percussionists Art*, Rochester, NY: University of Rochester Press, 2006, p.169.

of the compositional equation. Feldman expanded upon his “graph” score approach utilized in earlier pieces by applying it to timbres and registers of percussion.

When asked about the work of Feldman, DeLio states:

“First of all I don't think Feldman's work is really about silence, except in the sense that he is engrossed with the question of how sounds decay into silence. This is actually the real link between my work and his - but perhaps the only link. However, my sense of silence is different. Silence is like a location for experience of sound. It defines a place for sound. My silence frames sound, isolates it and creates an opportunity to hear sound both as an object, an entity unto itself divorced from its role as a mere unit of linguistic baggage (an element in a language, rather than a pure element of sound), as well as part of a process of evolution.”<sup>19</sup>

Thus far DeLio has stated that Cage considers silence as the area in which unintended sounds would take place, as compared to Feldman’s silences where sound decays to silence, but would not feature unintended sounds. We will later compare this to silence in DeLio’s own work.

Composer, theorist and pianist John P. Welsh says of the graphic scores:

“graphic notation enabled Feldman to shape sound through broad compositional gestures in which silence, density, register and timbre were used to create striking and original sonic structures.”<sup>20</sup>

Study of *The King of Denmark* has to begin with an understanding of the parameters set forth by Feldman. The score reads as follows:

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<sup>19</sup> Wiggins, p. 51.

<sup>20</sup> DeLio, p. 21.

1. Graphed High, Middle and Low, with each box equal to mm.  
66-92. The top line or slightly above the top line, very high. The bottom line or slightly beneath, very low.
2. Numbers represent the number of sounds to be played in each box.
3. All instruments to be played without sticks or mallets. The performer may use fingers, hand, or any part of his arm.
4. Dynamics are extremely low, and as equal as possible.
5. The thick horizontal line designates clusters.  
(Instruments should be as varied as possible.)
6. Roman numerals represent simultaneous sounds.
7. Large numbers (encompassing High, Middle, and Low) indicate single sounds to be played in all registers in any sequence.
8. Broken lines indicate sustained sounds.
9. Vibraphone is played without motor.

All of these techniques (excluding the vibraphone) can be seen in the first page of Feldman's score (example 5).

Example 5. *The King of Denmark*, p. 1

The image displays three staves of musical notation for the piece "The King of Denmark" by Morton Feldman. The notation is minimalist, consisting of vertical stems and horizontal lines indicating rhythm and dynamics. The first staff is titled "THE KING OF DENMARK" and "MORTON FELDMAN". The second staff includes a section labeled "SOME". The third staff continues the notation. At the bottom left, it says "Edition Peters 6963" and at the bottom right, "Copyright © 1965 by G. F. Peters Corporation 373 Park Avenue South, New York, N.Y. 10016".

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A key difference among the three works considered here is the notion of the degree of control exerted by the composer. As will be shown DeLio is very explicit in his scores as to what instruments are to be used, and what implement they are to be struck with. He even goes so far as to define where on the instruments they are to be struck. These specifications are not made in either *27'10.554''* or *The King of Denmark*. This element of control versus freedom is also explored within the actual notation of the composition. Everything in the DeLio score is notated, from which instruments are played to the rhythm and volume that is played. The Feldman score gives numbers of times instruments are to be struck, but no clear delineation of the rhythm in which this should occur. The Cage score gives the number of times instruments are to be struck but no definition of the rhythm in which this should occur. Both composers were very aware of the idea that this freedom could lead to large-scale misinterpretations of

their scores as a forum for improvisation rather than a deliberate vagueness on their part allowing freedom for decision-making. In a conversation between Cage and Feldman they discussed this topic and Cage stated “Well, I’ve heard lots of misinterpretations of specifically written music.”<sup>21</sup> Feldman himself stated “I think I’m making a very good decision if I go someplace and I don’t let them play my music. And if they are going to play my music they are obligated to present it in a way, you see.”<sup>22</sup> In 1991 Cage wrote a letter to orchestra members of the Zurich Opernhaus orchestra in which he admonished them for not playing the notes as he had written them, but instead adding their own operatic melodies to the work. He goes on to mention that one of the problems with this is that there are sections of the piece where the inactivity in the work is supposed to create emptiness to contrast the sounds surrounding.<sup>23</sup> This idea could also be applied to the works in this paper as a performer who is not careful in their interpretation would create activity where there is to be none, destroying the intent of the piece. The composers allowed the performer freedom to make certain choices of interpretation in the pieces but they maintained enough control over other parameters to discourage the performer from improvising. In addition, the new approach to notation and scoring of the pieces unique and specific enough to make it more difficult for the performer to improvise against the composers’ intentions.

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<sup>21</sup> Thomas Moore, “Morton Feldman in Conversation with Thomas Moore,” *Sonus*, 4, 2, Spring 1984 (accessed October 21, 2009).

<sup>22</sup> Moore

<sup>23</sup> Kostelantz, p. 255.

## Density

Schick analyzes this work by looking at three different density types – linear, peripheral and saturation. The linear densities are those that consist of individual events creating small clusters or individual lines (most similar to the above analysis). He describes the peripheral densities as events in any register that are supposed to be placed freely over the course of three to five units of time (the large number 5 in the example). There are four of these events in the work (three 5 and one 7). Schick's saturation is the final "as many sounds as possible" section that comes at the end of the piece (Example 6).<sup>24</sup>

Example 6. *The King of Denmark*, p. 2

The image displays three musical staves illustrating density analysis for 'The King of Denmark', p. 2. The top staff shows rhythmic patterns with vertical lines and Roman numerals (I, II, III, IV, V, VI, VII, VIII, IX, X, XI, XII) and a large '5' indicating a peripheral density. The middle staff shows a similar pattern with a '6' and a dashed box labeled 'SKIN'. The bottom staff shows a rhythmic pattern with a dashed box labeled 'CYMBALS'.

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<sup>24</sup> Schick, p. 173.

In the following chart (chart 2) I illustrate the Feldman score in a manner similar to the Cage. This chart is based on tables compiled by John Welsh in his analysis of *The King of Denmark*, the density descriptors by Steven Schick and my observations of the instrumental focus of the score in each section.

Figure 2. Analysis of *The King of Denmark*

Part	Section	Ictus	Silence	Sound Focus/Density
I	1	1-49 (49)	21	Linear
	2	50-152 (102)	140	Linear and Points of Saturation; Gongs
	3	153-161 (8)	7	Linear and Peripheral
II	4	162-194 (32)	17	Peripheral
	5	195-306 (111)	34	Linear, Ends in Saturation: Skin, Cymbals, Bells
	6	307-315 (8)	7	Peripheral; Triangle
	7	316-321 (5)	5	Linear; Triangle
III	8	322-363 (41)	15	Linear, Peripheral
	9	364-401 (37)	17	Linear, Saturation
	10	402-407 (5)	5	Peripheral; Vibraphone

	11	408-413 (5)	5	Linear; crotale
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As we will also see in the DeLio work, Feldman uses a combination of monophonic, homophonic and polyphonic textures throughout *The King of Denmark*. He accomplishes this by using sections that focus upon one timbral area for monophonic sections, while combining timbre areas for homophonic and polyphonic sections. One can see all of these textures at work on the opening page of the score. The first five events in the score are a strict monophonic texture, with specific numbers of ictus being used in one timbral area. At the end of the fifth event however the performer has to make a major compositional decision in regards to timbre. There are three grace notes stacked vertically on top of each other (graph no. 26). Here the performer can either perform all three of these notes together, creating a homophonic texture, separately to form a monophonic texture, or finally to separate them into a 2 vs. 1 event which could be considered polyphonic. A clearer example of this use of texture however appears just slightly later, when he has ictus of 7/5/2 over two beats. Again at this point it is up to the performer to decide the texture of this event. Throughout the work Feldman will often ask for a specifically homophonic texture by calling for a cluster of sounds to be played, encompassing as many instruments as possible. It is these combinations of texture that give the variety of color (that Feldman is seeking) to the piece, as well as ever increasing the compositional role of the performer. These clusters can be seen in the score as the dark, vertical lines.

## Register

Feldman stated that the idea for the graph developed while waiting for John Cage to prepare a wild rice dinner one evening:

“It was waiting for the wild rice that I sat down at his desk and picked up a piece of note paper and started to doodle. And what I doodled was a freely drawn page of graph paper - and what emerged were high, middle and low categories. It was just automatic.”<sup>25</sup>

This concept of high, middle and low sounds carried into his later composition of *The King of Denmark*. In Welsh’s analysis of the work he adds registers of very high and very low to his re-notation of the score in an attempt to bring more clarity the score for analysis. As each sound family has within it the high, middle and low sounds it is difficult to assign specifics of register to each section of the work. To try and clarify the register somewhat I will focus upon my instrumental choices and their relative pitch registers for the work to give one idea of how this could be interpreted. In general the highest sounds I use in a performance will be the bell-like sounds. I have skin and cymbal sounds which make up a middle register for the piece and then the gong sounds and the very lowest skin sounds (bass drum and timpani) make up the lowest register. When using this configuration section 5 contains the highest register while section 2 contains the lowest register. Section 8 contains the most mixture of high and low registers as it is one of the few points in the pieces where bell and gong sounds are alternated. The ends of each section are written for what will be higher range instruments that will ring: Section 3 a single high note; section 7 a triangle in the mid-range; and

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<sup>25</sup> Jan Williams, “An Interview with Morton Feldman”, *Percussive Notes Research Edition*, 21, no.6, 1983, p 7.

the final note, a G# on the crotale. Each of these notes is surrounded by silence to help isolate them as well but the resonance of each instrument will work to mask the silence between sections.

### **Timbre**

Feldman's score is open ended within the defined groupings of instrumentation. He requests bell-like sounds, skin sounds (drums), cymbals, gong, triangle and timpani. From there the instrumentation is left up to the performers' discretion. These instrument requirements are very similar in scope to the requirements for DeLio's *as though*. The score for *as though* will call for a collection of drums, cymbals and almglocken (or bell like sounds). This follows the three major categories of the Feldman work, as well as three of the four categories appearing in the Cage work. Schick brings up another interesting consideration for this work: whether or not to use traditionally hand-struck instruments (i.e. tambourine and wind chimes) in a piece played primarily with the hands. His stance (one with which I am in agreement) is that in these sorts of instruments objects striking one another (the tambourine jingles, the various bars of the wind chimes etc.) are what causes the actual sound, and not the striking of the instrument with the sound. This would then push these instruments outside the realm of intent for Feldman's piece.<sup>26</sup> The lack of traditional sticks to perform the work was inspired by a day at the beach. Feldman states:

” I wrote the whole piece on the beach. And I can actually conjure up the memory of doing it – that kind of muffled sound of kids in the distance

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<sup>26</sup> Schick, p. 170

and transistor radios and drifts of conversation from other pockets of inhabitants on blankets, and I remember that it did come into the piece. By that I mean these kinds of wisps. I was very impressed with the wisp, that things don't last, and that became an image of the piece: what was happening around me. To fortify that, I got the idea of using the fingers and the arms and doing away with all mallets, where sounds are only fleetingly there and disappear and don't last very long."<sup>27</sup>

Throughout the work there are mixtures of both resonant and non-resonant sounds. The performer can approach this in two ways. The first approach is to be sure that all of their instrument families contain a mixture of resonant and non-resonant instruments (with the exception of the gongs that are always resonant). The second approach is to use the cymbals, gongs and bells for any sustained sounds and to focus non-resonant sounds on the skins. Both of these approaches could be used effectively to create quite different interpretations of the work. The only points in the work where Feldman composes a specific pitch are the last two sections for the vibraphone and crotale.

### **Silence**

Comparing the Cage and Feldman charts we can see that generally Cage's silences are longer than those of Feldman, while his Cage's note density is also generally higher. The King of Denmark is often considered to be a work with a great deal of silence but we can see that Feldman generally has shorter silences than Cage. It is possible that this misconception comes from Cage's use of sticks and mallets and Feldman's use of fingers. From the audiences perspective the softer sound of the fingers makes the Feldman seem to have a greater amount of silence than the Cage as it is not always clear to them where the sounds end and

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<sup>27</sup> Williams, p. 5.

the silences begin. In the case of Feldman the charts shows that as the lengths of the sections decrease the amount of silence within the sections increases. This serves to further isolate the various sounds.<sup>28</sup> The chart also shows that the ends of each part (section 3, 7 and 11) feature the shortest amount of silence within those parts. In addition, within each of the three parts Feldman generally starts with a mid-range silence length, follows that with the longest silence and then concludes the section with the shortest silence. This gives a three part structure to the silences within in each larger part of the work. In contrast to the Cage work Feldman opens his piece with sound, but like the Cage he ends with a section of silence after the final note.

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<sup>28</sup> Welsh, p.40.

## **Chapter 5: *as though* by Thomas DeLio**

### **Biographical Information on Thomas DeLio**

Thomas DeLio was born in 1951. He studied at the New England Conservatory of Music with Robert Cogan, as well as at Brown University. He is currently a member of the theory and composition faculty at The University of Maryland at College Park. Many of his compositions feature combinations of electronic and acoustic sounds, as well as sound gestures that are separated by large quantities of silence.<sup>29</sup>

### ***Form and Content Analysis***

*as though* (1997) focuses on the ideal of a full range of percussion sound: noise-pure tone, hard attack-soft attack, and wood-metal. The pure tones in this work are only approximations due to the nature of vibraphones and chimes.

In many ways, the notion of opposition is central to DeLio's work. When composing a snare drum roll he immediately knows that somewhere in the piece he will include its functional opposite: a pure tone. When composing a metallic wash of white noise (a cymbal roll) the work will later include a more concentrated non metallic roll of attack filled noise (a bongo roll perhaps). These pieces evolve as a succession of oppositions which ultimately come into a state of stasis. When that stasis is achieved the piece is over. In *as though* tones on the

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<sup>29</sup> Steven Johnson, "Thomas DeLio", New Grove Online, [http://www.oxfordmusiconline.com/subscriber/article/grove/music/48321?q=Thomas+DeLio&hbutton\\_search.x=0&hbutton\\_search.y=0&hbutton\\_search=search&source=omo\\_gmo&search=quick&pos=1&\\_start=1#firsthit](http://www.oxfordmusiconline.com/subscriber/article/grove/music/48321?q=Thomas+DeLio&hbutton_search.x=0&hbutton_search.y=0&hbutton_search=search&source=omo_gmo&search=quick&pos=1&_start=1#firsthit) (accessed January 7, 2009).

vibes and chime are immediately followed by the maracas: pure tone vs. white noise.

While noting the influence of Cage and Feldman's scores, DeLio fully notates the rhythmic ideas and sounds of his pieces. Therefore, while Cage and Feldman allow some freedom for interpretation of events to the performer, all of DeLio's are strictly notated. In this chapter we will analyze how the work is structured. This chapter will also look at how the work is similar to yet also different from the approach taken by Cage and Feldman.

*as though* was part of a broader attempt by DeLio to create a piece that embraced many aspects of sound, from white noise (the snare roll) to pitch (the vibraphone note at the end). DeLio wanted these extremes as well as gradations in between (the maracas for example, a filtered white noise), and to juxtapose these levels of sound constantly throughout the piece. Again this juxtaposition occurs within the constraints of his style of composition (use of silence to chop up the flow, radical discontinuities provided by the juxtaposition of very different musical events.) He attempted to avoid creating music that flows continuously, gradually from one state to another but instead composes sudden, jarring juxtaposition of opposites.

## Density

The textures that DeLio creates in *as though* are very interesting, especially when contrasted with the pieces we have previously discussed. The Cage and Feldman works have a generally monophonic texture with short, significant periods of polyphony. *as though*, however, is a predominately polyphonic work, focusing often upon the use of polyrhythm to create multiple rhythmic lines. This work opens and closes in a monophonic texture, but all of the middle material (episode 3-10) is polyphonic (example 7).

Example 7. *as though*, p. 1

**as though**  
for percussion

For Chris Shulz Thomas DeLio

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DeLio uses polyrhythm in the work to create rhythmic interest and intensity. Frequently DeLio uses a grouping of seven against another rhythm (typically five or four). It is quite rare that all of the notes for any of these polyrhythms will appear however, as they are usually interrupted by rests. This layering of rhythmic ideas allows DeLio to have up to four different musical ideas being performed at a time, creating a sort of four part “rhythmic harmony” in his work (example 8).

Example 8. *as though*, p. 3

The image displays two systems of handwritten musical notation. The top system is titled "strikes" and includes parts for "voice", "hand drums", and "wood block". The voice part features lyrics "ah" and "ah" with notes and rests. The hand drums and wood block parts show complex rhythmic patterns with various note values and rests. The bottom system is titled "hand drum multiple 2" and includes parts for "triangle/cow", "cymbals", "wood blocks", and "triangle blocks". These parts also show complex rhythmic patterns with various note values and rests. The score is marked with dynamics such as *fff*, *mf*, and *ppp*. The page number "- 3 -" is visible at the bottom.

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The densities in *as though* each take on a special and important character in the work. The work opens and closes with events that are peripheral in nature, especially in their instrumentation. The peripheral events are the only ones in which claves, maracas, vibraphone and chime appear in the work. The second section of the work features brief periods of saturation followed by silences. The amount of silence separating these different densities of sound serves to fragment the work as though one complete sentence has been separated by many long pauses. The title of the work *as though* even suggests a fragment of a sentence. There is a sense of call and response to the work, similar to that of a conversation as well. The bongos, tom-toms and temple blocks are the constant instrument throughout the piece (the call). The call sections feature a saturated density. On the second page the response comes by removing the drums and adding the almglocken. The response sections are a linear density. The drums return again for another call, and are answered by the almglocken and cymbals.

### ***Register***

Regarding pitch in his compositions he says:

“I must state from the start that I rarely write a piece (even a non-percussion piece) which focuses on pitch. I consider pitch interesting only as one element of the pitch noise continuum. Thus, it is hard for me to just talk about pitch. Sometimes a pitch is chosen because of the particular way it colors a band of noise. I find the whole pitch/language paradigm (set theory...) tedious and musically uninteresting. When I have focused on pitch to any degree I tend to think of pitches as collections (I prefer that word to sets, because set is not accurate way to describe groups of pitches) which contrast in different ways against the background of the full chromatic collection. My pieces that use pitch at all tend always to have

one moment where the full chromatic collection is saturated, but those moments are special and rare. In this respect my pieces are very different from those of the serialists who saturate the 12 note collection all the time. I will often over the course of a piece focus on small sub-collections of the full 12 note collection and contrast these with one another. And then, as I have said, briefly unfold all 12 pitches and then move away from the full 12 collection, back to just two or three note sub collections.”<sup>30</sup>

As with both the Feldman and Cage works, DeLio writes *as though* for predominately unpitched instruments, making it difficult to do an analysis of register in the work. However, if we look at the relative tonal qualities of the instruments that are used we can start to see a hierarchy of register develop. The opening section of the work uses higher sounds such as claves, temple blocks and bongos. The middle section uses the lowest register of sounds with the addition of the toms into the mix. The final section returns to a higher register of sound with the maraca and the pitch E performed on the vibraphone and chime. This final section marks the only appearance of a specific pitch in the work.

### *Timbre*

The opening section utilizes drums, temple blocks, voice and wind chimes. Section B of the work utilizes more frequently the almglocken and wooden sounds (combining metal and bell-like sounds). The end of this section represents the dynamic peak of the work, focused predominately upon the tom sound. The final section of the work returns to the softer metal and wood timbre of the middle section, but introduces the use of cymbals, vibes and chimes. In this context we can see a focus on three major instruments: drums (part A); almglocken (part B);

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<sup>30</sup> Email correspondence June 5, 2007.

and cymbals (part C). This conclusion is drawn from the introduction of these voices throughout the work. The temple block and wood block sounds are a relative constant throughout DeLio's composition, and he affects timbral change through the use of the other instruments. The introduction of the vibraphone and chime can be seen as a sort of coda to the whole work since they are only utilized by themselves at the very end of the work (similar to when these types of sounds appear in Feldman's score). DeLio also follows a pattern of moving through the piece from non-pitched percussion (the drums) to pitched percussion (almglocken followed by vibraphone and chimes).

DeLio also makes frequent use of vocal sounds throughout this work. The voice is always an effect sound so there are not defined words to be spoken, but instead short articulations, such as [t] and [ch]. These vocal sounds are then woven into the accompanying drum sound to at times create even a fifth layer of rhythmic melody. This density of rhythm contrasts greatly with the amount of silence that appears in the work. In comparison the Feldman and Cage works have a more frequent appearance of intentional sounds from the performer but as the scores are not specifically rhythmically notated one does not see that development of rhythm as a form of melody in the same way.

## *Silence*

When asked how he determines the ratio of sound to silence in his works DeLio responded:

“I usually work with various proportional series (logarithmic series, additive series). I often use a difference series for the sounds and silences in a piece. I like to give each (sound or silence) a different character, at least in terms of how they unfold over time. For example, the sound events might unfold in a rapidly expanding sequence of durations while the silence might unfold through a static series of durations – or vice versa. I like to pit the sound events and silences in counterpoint to one another. Among other things this gives each an independent life over the course of the piece. In my earlier pieces (*Against the silence...* for example) silences were used to separate sounds and isolate sound events. Now I use the silences as elements equal to sound events with a structure all their own. Since silence only had duration I must rely on the proportions among those durations to give the silences in any piece their own quality, equal to sound events.”<sup>31</sup>

Formally, the ratios of sound to silence are at their most extreme in this work as he presents only 30 beats of sound, compared to 118 of silence! While this is common in DeLio’s works, in both the Cage and Feldman works the ratio of beats of sound to beats of silence is nearly always greater than the beats of silence.

This work can be divided into three sections and, as with many of DeLio’s works, these sections are separate by the longest silences in the work.

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<sup>31</sup> Email correspondence June 5, 2007.

Within this framework DeLio utilizes 12 episodes of sound versus silence.

**A- mm. 1-8**

1. Claves only
2. Snare drum only
3. Bongos, voice, temple blocks, toms and wind chimes
4. Same as 3

Interlude of silence m. 9

**B- mm. 10-19**

5. Almglocken and temple block
6. Almglocken, temple block, woodblocks
7. Almglocken, temple blocks, woodblocks
8. Same as 3 with metal chimes replacing bamboo, peak dynamic levels of the piece
9. Same as 3 and 8 but no wind chimes
10. Almglocken, cymbals. Woodblocks, temple blocks

Interlude of silence m. 20

**C- mm. 21-25**

11. Maraca, chime, vibraphone
12. Maraca, cut off decay of chime and vibrate

The following chart (chart 3) looks at the DeLio work in the same manner as the Cage and Feldman works:

Figure 3. Analysis of *as though*

Timing	Ictus	Silence	Sound Focus
1	26	43	drums
2	99	50	almglocken
3	33	44	Cymbals, mallets

This chart shows that in the outer portions of the work silence predominates over sound, while in the middle section this equation is reversed. In both the Cage and Feldman works the charts show that even though there are periods of long silence, generally sonic activity is more frequent than silence. This is consistent with DeLio's expressed concept using his silences to frame and separate sounds for the listener.<sup>32</sup>

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<sup>32</sup> According to DeLio there is no relationship between the piano work "*though*" and "*as though*" other than the similarity of the titles.

## Chapter 6 Four Points of Comparison

This section of the paper will look at four quotes by Thomas DeLio comparing music by Cage and Feldman to his own. They come from 2 personal (email) interviews with DeLio, and we shall use them to examine key similarities and differences between the works, as well as the purported influence of Cage and Feldman on DeLio's own compositional style.

(1) From email correspondence February 14, 2008:

When examining the compositional approaches of Cage and Feldman, Delio states:

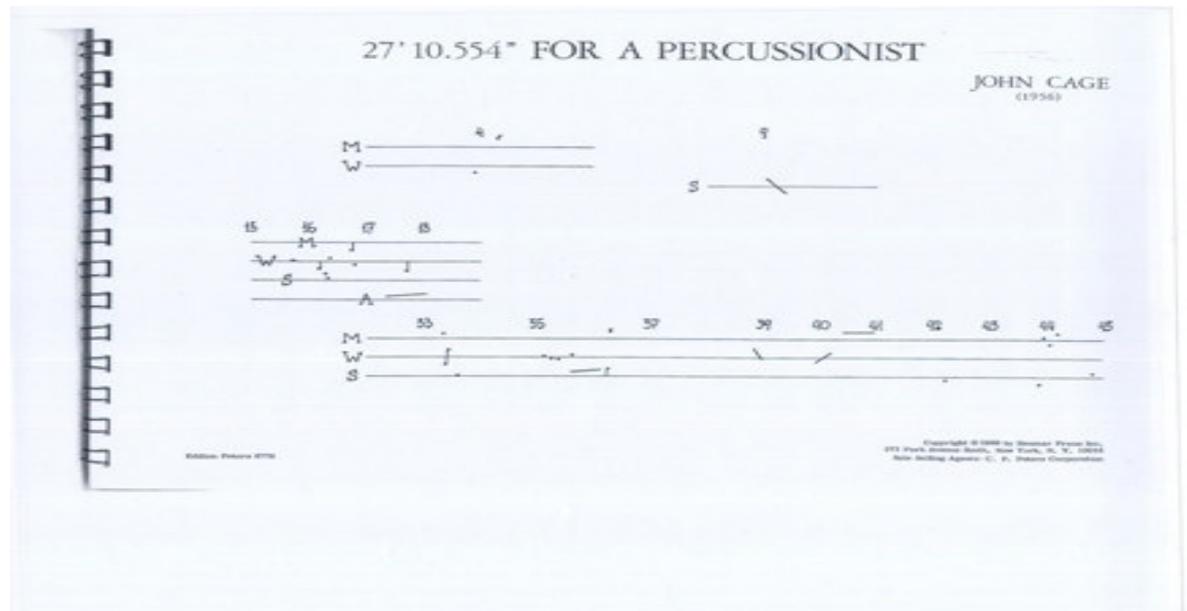
“I think that the differences are greater than the similarities. Cage was, of course interested in non-intention - the ability to create a piece which imposes as little as possible of his own personal taste into the compositional process. He designs his scores so that each becomes a possibility for music. Feldman creates compositions which are much more specific. He chooses a specific way to present sound, and he always tries to present sound in some 'pristine' form. When I think of Feldman I think of Gertrude Stein's famous observation that what she wanted to do in her poetry was get words back clean, to wipe away from them all the meaning that had accrued over so many centuries and make words feel as though they were fresh and had no meaning a priori. Feldman and Cage both do the same for sound but in different ways. Feldman chooses very specific sounds and presents them in very specific ways (soft, slow...). He creates a very precise way to present sound. It is a unique way to hear sound for it emphasizes our first encounter with sound but still it is specific. Cage on the other hand does not concentrate on sound itself, but rather concentrates on the possible ways of making sounds. Cage's scores are "manuals" in a sense for creating sound events. Feldman's specify particular sound events.”

In *The King of Denmark* however Feldman is much more like Cage in that he is less specific in choosing the particular sound, and through the use of hands

instead of sticks seems to focus more on the specific technique of creating the sound (as DeLio described Cage's work). Feldman's notation in *The King of Denmark* is also less precise of an approach than the DeLio's quote might make it seem as the graphic notation tells the performer high, middle and low (similar to what Cage does with dynamics) but gives very little information to the performer beyond the ranges.

Example 9 shows the similarities in the amount of space between notes while also showing the difference in the notational style between the two composers.

Example 9 Page 1 of *27'10.554* and *as though*



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as though  
for percussion

for Chris Shulz Thomas DeLio

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In the instance of *The King of Denmark* and *27'10.554"* I think both scores are really a manual for the interpretation of the performer. Cage is actually more detailed in the space in which notes will appear than even Feldman is with his use of a specific time frame throughout the score, while Feldman gives a general tempo range and the notes can appear anywhere within the boxes used to notate the score. Cage and Feldman both allow a great deal of freedom in the choice of timbres for the performer, within the wood, metal skins categories. In this particular instance DeLio varies greatly from Cage and Feldman in the precision

with which his score is notated. There is no doubt in the DeLio score as to when a note is to be played, on what instrument, or even with what implement, as all is notated by the composer.

(2) From email correspondence February 14, 2008:

When examining the compositional approaches of Cage and Feldman DeLio states:

“Feldman truly creates a world in each of his pieces wherein we become aware of every nuance of sound; not sounds connected to one another (in other words, sounds being used to create language) but sounds which have their own unique properties and which can be savored for themselves. In contrast, what I have always taken from Cage is his openness to the full world of sound. From Cage we always learn that we must not prejudice sound: there are neither ugly nor beautiful sounds. He creates pieces which open themselves up to sounds of all kind: pure, noisy... this is a remarkable fact which I think is unique to Cage. I know of no other composer who has so freed himself of such prejudice.”

In this statement it appears that DeLio is speaking specifically to the idea of the introduction of new sounds into the music world and the differing qualities that they might be able to bring to a musical composition as well as the listeners ability to connect different sounds into some form of context. Unlike Cage’s 27’10.554”, in the Feldman the listener will never hear sounds that are truly noisy or harsh due to Feldman’s use of fingers as the performing implement. Each instrument will have a unique quality based upon how on it reacts to being struck with the fingers of the performer, but due to the lack of traditional beaters all of the sounds will be very muted in their volume. A quality performance (and selection of instruments) will draw the audience into a softer sound world that

might actually make them more aware of the subtleties of percussion timbre and sound quality. In addition, as the sounds meld together in the “wispy” fashion Feldman discussed the sounds themselves would create a new sense of instrumental color. The listener will therefore “savor” the sounds based upon the amount of space surrounding them as well as the new “types” of sounds that will result from the melding of timbres.

Cage writes with a more open approach to both the instrumentation and the ways the instruments are struck (asking for a variety of beaters; different volumes to be used etc.) In this instance the Cage will have many moments that will verge more on the idea of “ugly” sounds, but it will also have more moments than the Feldman in which the sounds can be “savored for themselves.” This is due to the volume at which the sounds will occur, making them easier for the listener to hear than in the Feldman. In the moments during a performance where monophonic music is occurs the performer could truly highlight sound qualities of many different and unique sounds. The amount of space within the Cage would also help to highlight the individual nature of different sounds, more so than the more continuous Feldman work. Cage’s openness to the world of sound can also be highlighted by his use of electronic sounds in his score. The “all other” category frees up the performer to add a number of unique sounds that might not be heard in the context of a normal, acoustic, percussion composition (such as both the DeLio and Feldman). And yet again these sounds would often be savored for their own qualities as there are points in the score which call for only these sounds

to be performed, freeing them briefly from a relationship to any of the acoustic sounds in the piece.

DeLio's composition in this instance features elements of isolation of particular sounds (such as the opening clave notes) while also having many moments that would verge more on the "noise spectrum", such as when the toms, temple blocks and wind chimes are all sounding together. DeLio uses the silences to try and isolate the different sound events so that each occurs as its own idea, unrelated to those that have occurred before. The problem with this occurs when one considers that the piece is only 3 minutes long and most listeners can make connections throughout a 3 minute piece, even with larger periods of silence written. Even if it is just being able to identify common timbres, the listener can probably make some sort of connection between sections. To this end the Cage piece, with its larger periods of silence and more spacious isolation of sounds would be the most effective at demonstrating what DeLio is discussing in this particular quote. However, a performance of the DeLio that includes absolute stillness (and accuracy) in the silences can help to break the phrases visually for the listener, leading to more of a focus on the silence than the preceding passage. This could help to break the connections between musical ideas.

(3) From email correspondence February 14, 2008:

When discussing the approach to silence by the three composers DeLio states:

"My approach involves the reduction of the music's surface to a few disjunct sound events separated – pushed apart – by large quantities of

silence; sound events pushed into isolation. As time goes on I find myself reducing the sound events themselves to only the barest essentials. My recent compositions... are constructed from discrete segments of music which, though they coexist as a group, never become fixed with respect to one another through hierarchical relationships; in this respect my recent pieces are never organic. To achieve this end I avoid constructing transitions linking individual events. I avoid anything that might convey a sense of continuity and connection. I try to make every aspect of the music seem segmented, halted, and separated. I try to isolate and emphasize the direct experience of the moment. This is a hard one. Basically, it is a sonic image. I want to create an experience of sound that I have not had before – an experience *with* sound. I know what does not inspire me: pitch relations, linearity, counterpoint (i.e. all the trappings of “music.”). I want to experience SOUND as sound, stripped of all the rhetoric of the past 200 years. Each piece is an attempt to do this. The form of each piece is in effect a framework for doing this.” (Emphases with all capitals and italics are DeLio’s.)

I believe this quote by DeLio says a great deal about his compositions. Many times in his works the sound events that can occur are indeed separated by large silences, sometimes even up to a full minute of silence. These silences in turn attempt to make every statement of sound an event unto itself. DeLio’s intent is to eliminate unwanted connections the listener may try to make between events, as their ability to do so is limited to what they can remember. As stated above however it is not inconceivable for a listener to still be able to make these connections between segments, given the length of the composition.

The Cage and Feldman each feature a new form of composition, both of which leave enough variety in the interpretive process for every performer to create new and distinct compositions from their scores. All three works avoid the ideas of pitch and linearity. I do believe that one can see however many instances of counterpoint in DeLio's composition. The use of the polyrhythmic lines in DeLio’s piece creates a counterpoint between the various instrumental voices. On

many of these occasions he is placing different timbres, such as skin vs. metal or wood vs. skin into counterpoint with each other. While not the traditional form of melodic counterpoint there is an independence of musical thought and line that can find its basis in traditional forms of music. Although counterpoint does not appear as readily in the Cage and Feldman works (as they tend to be more often monophonic or homophonic in texture) it can be produced unintentionally based primarily upon the choice of instruments in the performance (as it is often produced in the DeLio as well).

The length of the DeLio work makes it possible that the listener could make a connection between musical events through the silence, while Cage is more successful due to the greater length of his work allowing for larger expanses of silence between events. As stated before, the accuracy of the length of the silence and the performer's stillness in the silence can help to sever the connections between phrases in the DeLio. In this instance the interpretation of the score comes into play when discussing the Feldman. The performer could play the Feldman in a manner (and instrument selection) that creates more space in between events, but I would tend to work for an interpretation that seems to meld many of the sections together (Feldman's "wisps"). This approach would actually use the instruments to obscure many of the spaces in the composition, leading to a work that seemed to have less separation between musical events. In addition, analysis of each work shows that the Feldman work has the least amount of spatial separation between segments of the three works.

(4) From email correspondence February 14, 2008:

When discussing the instruments choices of each composer DeLio states:

“The instrumentation depends upon the type of sonic evolutions and contrasts I am interested in creating in any given piece. For example, I often like to contrast two types of “white noise”; the more dry (non-resonant) sounding white noise of maracas vs. the more wet (resonant) sounding white noise of say a cymbal roll. These can evolve in different ways toward pitch, which, of course, is far from white noise on the sound spectrum. If I wish to expand noise sounds into pitch sounds I may choose a variety of pitch instruments: for example the dry sounds of a xylophone vs. the wet sounds of a vibraphone with pedal (or a piano with a pedal). Percussion allows a composer to deal with sound throughout the entire pitch/noise continuum. It is important today to see all sounds as a part of this continuum. Thus, pitch is one manifestation of all sound ranging from pure tones to noise bands. Conventional composers view pitch as a special body of sound matter to be reserved for music. When they use percussion it is secondary to the pitched instruments. For me that approach denies one of the fundamental truths revealed in the best new music – that pitch and noise are part of the same sonic spectrum.”

As we have seen, each of the three compositions discussed here focus on instruments that many would classify in the noise spectrum of sound as only in rare instances in the DeLio and Feldman works is there actual pitch performed. Each of the composers also contrasts various lengths and colors of sounds through their use of wood, metal and skin sounds. In this way they can put drier and more resonant sounds into contrast with each other. While DeLio is the most exacting in his balancing of these ideas Cage and Feldman both use this form of contrast in their pieces as well. In a certain point of the Cage and Feldman scores they specify an instrument family to be used and will specify points where notes are supposed to be rolled or sustained. These notes will often be set in contrast to

drier sounds appearing before and after them. In pieces such as these that do not have specific rhythms to them, this difference between long and short can be used to insure a variety of lengths of notes in performance. In these three works noise becomes the focus of the sound continuum, with pitch being derived from the differing sonic qualities of the chosen instruments.

## Chapter 7: Conclusions

John Cage, Morton Feldman and Thomas DeLio have done an extensive exploration of the qualities of sound and silence within their works. The three approaches to the role of silence in their music differ, however. For Cage the silence is a space where unintended sounds will occur. Feldman utilizes the decay of the instruments to make ambiguous where sound and silence start and stop in his work. DeLio's use of silence is the most stark as he intends for there to be no sound but just stillness in his silences. Decay is not utilized as an element of his silences as he always leads into a silence with a sound that would be short and have little decay, thus ensuring the immediate "start" to a silence. All of their works display a trait of attempting to isolate moments of sound in both time and space. Within these frozen moments we have heard episodes of great complexity contrasted with very placid and sustained sounds. DeLio makes the most extensive use of silence in his composition, while Feldman has the least silence in his work. The differing lengths to the silences will also create a different meaning for the listener as the silences will take on differing sound qualities in performance, ranging from the very static silence of DeLio to Feldman's ambiguity. The differing lengths of the pieces will also lend a different meaning to the silences for the listener. Looking at the length of each work in approximate number of seconds we arrive at a length of 1630.554 seconds for the Cage, 676 seconds for the Feldman and 180 seconds for the DeLio. Proportionally the DeLio (137 seconds) and Feldman (273) works feature silence for nearly two-

thirds of the performance time. The Cage (961.554) has proportionally just over fifty-percent of the work constituting silence. I believe that to the listener this will create three different experiences. The perception of the Cage would be a fairly even amount of sound versus silence. The listener would be able to be more patient as they waited for the piece to unfold, similar to observing Rauschenberg's white paintings. The Feldman will be more difficult for the listener to recognize exactly where many of the silences are due to decay so this could be the work in which the amount of silence is least striking to the listener. The scarcity of ictus combined with the amount of silence I believe will make the DeLio appear to have the greatest amount of silence in the three pieces. It would also give the listener a more intense experience of the conflict between sound and silence. I know that as a listener I hear (and perform) these three pieces in a very different manner. In the Feldman I listen for and try to produce an almost continuous flow of sounds, also considering the physicality of maintaining constant movement from one set of sounds to the next. This approach produces a visual presentation that is consistent with the aural experience. In the DeLio I strive to have all of the silences be as static as possible, with a minimal amount of motion. I will move to the next set of sounds at the last possible instant. In this way I work to highlight as dramatically as possible the difference between the sounds and silences. I also feel like this really helps to support DeLio's stated goal of "framing" the sounds with silence. I frame the motion with stillness. The Cage covers a longer expanse of time, giving me the opportunity to really develop a sense of how the sounds and silences work together. In many ways I see the Cage as have elements of

both the Feldman and DeLio. There are points in the piece where I approach the shorter silences in the same manner as the Feldman, keeping a flow between sections. In the longer silences I go for the stillness of DeLio in order to showcase the inevitable non-intended sounds occurring within the performance space.

All of the composers use similar instrument groupings that encompass the wide variety of sounds that can be produced by the percussion family. One of the most significant differences in the three works is the manner in which they are notated (Example 9). A common problem with multiple percussion repertoire is that the performer has to often learn a new notational system for each piece, which is clearly displayed in these three works. This is a common trend in multiple-percussion which can also be seen in works by Iannis Xenakis, Karlheinz Stockhausen and others. Cage and Feldman allow space for the performer to take on a compositional role within their works while DeLio is very exacting in his notation. The Feldman and Cage pieces do have a similarity in their use of high, middle and low spacing on the score to represent a musical parameter (Cage: dynamics; Feldman: pitch). None of the composers use pitch as a significant element in their compositions, with DeLio and Feldman introducing specific pitches only at the end of their pieces. It is possible that rhythmic ideas similar to those notated by DeLio would emerge in a performance of the Cage or Feldman works, depending on the interpretation of the performer.

The concept of linear, peripheral and saturated densities is an element that can be seen in all three compositions. DeLio quite clearly uses the three by framing his working with peripheral densities, and featuring a call and response of linear and saturated densities in the middle of the work. Cage and Feldman work with the densities differently than DeLio as they use their peripheral densities to offset and bring a moment of stillness to their works. Feldman makes the least use of saturation, confining it solely to near the end of his work. Cage and DeLio both use saturation in the middle parts of their works more so than the endings.

All three composers bring varied compositional approaches to the genre of multiple percussion, while at the same time having similarities exist within instrumentation, usage of time within a piece and contrasting sonic events with silence. It is my belief that these qualities make these compositions very unique in a world of percussion that has a tendency to become preoccupied with technique, often at the expense of artistic expression. These works are designed to stretch the listener in new directions, particularly encouraging them to become ever more attentive to the smallest, most subtle nuances of sound. Just as every viewer will see different things in the starkness of Rauschenberg's "White Paintings", every listener will have a differing experience in the silences of any of these three pieces. Cage broke open the concept of silence as music in his work "4'33" by allowing the silence of the performer to open up the world of unintentional sounds to the listener. In their subsequent pieces Cage, Feldman and DeLio have each used silence to highlight in different ways their individual

approaches to intentional sound. While 27'10.554" was written prior to Cage's *Ryoanji* (1983-85), it helps to encourage the listener to focus on the sounds amidst the silence, just as the viewer meditates on the Ryoanji Zen Garden, or as the listener hears Cage's "Ryoanji". 27'10.554" in many ways served as a predecessor not only to Feldman and DeLio but to Cage's later work. Feldman focuses the listener on the most minute qualities of sound in his work, while DeLio focuses the listener on the conflict between sound and silence. These are really three approaches to the same Zen Garden. As Cage said, "If something is boring after two minutes, try it for four. If still boring, then eight. Then sixteen. Then thirty-two. Eventually one discovers that it is not boring at all."<sup>33</sup>

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<sup>33</sup> Cage, p. 93.

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